

Abstract of the Disclosure

METHOD AND APPARATUS FOR SEAT DETECTION AND SOFT  
SEATING IN A PIEZOELECTRIC DEVICE ACTUATED VALVE SYSTEM

A control system for determining and controlling position and velocity of a valve member relative to a valve contact surface in a valve system preferably having an actuator comprised of a piezoelectric device. The control system includes an actuator control circuit for applying a control signal to the actuator to move the member relative to the contact surface. The control system further includes a seat detection circuit for determining when the member impacts the contact surface. The control system further includes a velocity control circuit which utilizes the output of the seat detection circuit from the previous actuation cycle to control the position and velocity of the member relative to the contact surface in the subsequent actuation cycle.